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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,925	10/17/2000	Hardy Lee Crumby	IGT1P040	3189

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EXAMINER
MARKS, CHRISTINA M

ART UNIT	PAPER NUMBER
3713	

DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary	**Application No.** 09/690,925	**Applicant(s)** CRUMBY, HARDY LEE
	Examiner C. Marks	**Art Unit** 3713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *17 October 2000* .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-40* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-40* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *17 October 2000* is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

    1. ☐ Certified copies of the priority documents have been received.

    2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2, 3, 4* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Specification

The use of the trademarks CISCO (page17, line 21), IGT (page 13, line 5, line 21),

FIREWIRE (page 12, line 26) as well as many others has been noted in this application. All

trademarks should be capitalized wherever it appears and be accompanied by the generic

terminology. Applicant is responsible to identify and capitalize all trademarks present whitin the

instant application.

Although the use of trademarks is permissible in patent applications, the proprietary

nature of the marks should be respected and every effort made to prevent their use in any manner

that might adversely affect their validity as trademarks.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every

feature of the invention specified in the claims. Therefore, the 16 communication-port model of

the multiplexer must be shown or the feature(s) canceled from the claim(s). No new matter

should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office

action to avoid abandonment of the application. The objection to the drawings will not be held

in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16, 27, and 38 are rejected under 35 U.S.C., second paragraph as they contain the trademark/trade name FIREWIRE. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe computer utility software; computers; computer peripherals and consumer electronics, namely, scanners, smart monitors, modems, printers, disk drives, namely fixed, floppy, cartridge and tape drives, CD-ROM drives, CD-Recordable (CD-R) drives, CD-Rewritable (CD-RW) drives; DVD-ROM (Read-only DVD) drives, and Rewritable DVD (DVD-RAM) drives; VCRs; digital televisions; stereo receivers; DVD players; video game machines for use with a television or computer; network interfaces, namely cable modems, routers, bridges, gateways, and hubs; professional and consumer audio and musical amplifiers; video special effects generators; digital photographic cameras; digital motion picture cameras; industrial test equipment, namely, data measurement units, digital

displays, industrial controllers and controller test systems comprised of computer hardware, and

software for testing industrial equipment; scientific and medical imaging systems comprised of

graphical displays for images, digital cameras and image processing computer hardware and

software; and magneto-optical drives and, accordingly, the identification/description is

indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-40 rejected under 35 U.S.C. 103(a) as being unpatentable over Sides (US Patent

No. 5,048,831, O'Toole et al. (US Patent No. 6,345,294), Goody (US Patent No. 6,097,721),

Cunningham et al. (US Patent No. 6,366,217), and Alcorn et al. (US Patent No. 6,149,522)

viewed collectively.

The invention disclosed in this application is a video gaming machine that can connect to a wide variety of gaming services by employing a communications multiplexer and a boot server. The problem addressed that the invention claims to solve is that there is a possibility based upon manufacturers and applications that each of the gaming servers may use different application protocols. These application specific protocols are programmed into the gaming software for each machine and referred to as "native communications protocols" and may vary from machine to machine.

The invention claims to use the communications multiplexer device in order for the gaming machine to send a message over one of the gaming services networks and assuming the message will reach a particular server without any knowledge of the network hardware. Furthermore, the communications multiplexer device receives messages from the gaming machines at its communication ports (of which the number can vary). These ports are configured to be compatible with the physical interface and physical communications protocol of each game service.

The communications multiplexer device then may multiplex and convert all the messages received at its ports into a second communications protocol, TCP/IP, such that the messages from each port may be sent to the gaming service servers via a network using the output communication port. This encapsulation, addressing, and sending of messages is performed with processor logic stored on the multiplexer.

Furthermore, the invention claims the communications multiplexer device has the ability to de-multiplex message received at the output communications port in TCP/IP protocol, determine a destination communication port for each message and convert the message back to

the native protocol. This conversion and routing can be done without interpreting the contents of

a message and the communications multiplexer device has the ability to encrypt messages.

The communications multiplexer device is connected to the gateway device in any

manner known as a network interface (such as a wired Ethernet, cellular network, etc.), which is

further connected to a LAN containing the gaming service servers. The boot server may be used

to initialize one or more communications multiplexer devices by assigning an IP to the device

and identifying the game service servers currently in communication. Each port can also be

assigned a host IP number that allows a game service server or some other device to address

messages to a particular port. Furthermore, a firewall may be instituted for security purposes.

The method for provided for communications between a gaming machine and one or

more gaming service servers is disclosed. The method is obtaining an IP address from the boot

server, getting initial parameters for the communication ports and identifying valid ports.

Further, these ports are then mapped to game service servers and a physical communication

protocol is set for each port to establish communications.

Through the combined teachings of US Patent 6,431,983 and that which Applicant admits

as prior art (FIGURE 1), a gaming apparatus is disclosed. Sides discloses that a game apparatus

should have the preferred embodiment of a computer processor unit (gaming controller) for

processing data input and for outputting signals to other units (Column 4, lines 37-42).

Furthermore, Sides discloses a communications unit that comprises electronics circuitry and

devices adapted for the purposes of exchanging data between modules of the apparatus (Column

4, lines 46-49). Though Sides does not disclose the exact device for a communications unit, a

multiplexer device would qualify, as it is electronic circuitry/device well-known for the use of

exchanging and managing data. Applicant discloses that it is known in the art to network a gaming machine to a variety of gaming services such as an accounting server, a progressive server, a player tracking server, and a cashless pay server (FIGURE 1). Through the architectural disclosure of Sides, the prior art admitted to by Applicant, and that which is well known in the art, a gaming apparatus is defined that uses a controller, a communications multiplexer, and a network interface. The network interface for creating the network described by applicant is not defined but the use of any network interface, such as Ethernet or wireless, and the components necessary to implement these networks are so well known in the art that it is obvious to one skilled in the art at the time of invention to substitute other such forms. Furthermore, it is also well known in the art to use a firewall as a means for offering protection for the network, thus the usage of such would be obvious to one with ordinary skill in the art.

In US Patent No. 6,345,294, O'Toole et al. provide a teaching of what a boot server is and the functionality of one. O'Toole discloses that upon being powered on an apparatus can make use of known protocols of bootp or DHCP requests to obtain a source of network parameters. The boot server or DHCP server is a computer that acts as a server in the local networking environment and that responds to certain types of route request messages. A boot server or DHCP server typically responds with a small message that contains some parameters that the requesting computer needs to be given. These parameters typically include the IP address of the apparatuses that is attempting to boot, the subnet makes of the appliance, the IP addresses of one or more routers, one ore more name servers, as well as numerous other optional parameters (Column 7, lines 40-60).

Likewise, the invention also discloses the use of a boot server. As taught by O'Toole et al. the functionality of a boot server is vital to a network communication among devices. The boot server will provide IP addresses to the device attempting to boot as well as the addresses of other devices and servers as an aide in the routing of messages. Furthermore, because it is disclosed that the boot server can provide any information relating to initialization or routing, it would be axiomatic that this boot server would be able to provide specific protocols as being used by the ports. With the various servers admitted by Applicant as prior art, it would be obvious to one skilled in the art at the time of invention to incorporate a boot server to aid in initializing these devices in order to cut down on hardware, while at the same time reducing the costs by creating a central boot server in charge of servicing and routing requests from the other servers.

In the manner of the communications multiplexer, the usage of such is suggested by US Patent No. 6,097,721 (Goody) and US Patent No. 6,366,217 (Cunningham) and easily incorporated into the gaming apparatus of Sides. Goody teaches that integrated telecommunications systems that carry different types of signals for different types of applications have to properly multiplex and demultiplex the different signals (Column 1, lines 29-31). Goody further discloses that such a communication system is a network computer (Column 2, line 65). It is well known in the art that a gaming device connected to a gaming service server is basically a network computer with specially adapted well-known hardware and software to support the game; therefore, the different types of signals from the various applications in the games would need to be multiplexed and de-multiplexed in order for proper operation of the device. It would be axiomatic to the functionality of Goody, that a processor

logic be used in order to properly multiplex and demultiplex these signals. Furthermore,

Cunnignham et al. teaches of a data collection module, obviously with a power supply

incorporated in order for functional operation, that can be connected to a third party device via a

RS-232 communications port, which axiomatically will be initialized for use and which the

number of is not relevant, which is configured to emulate the third party devices native

communication protocol. The data collection module server thus provides data collection,

protocol conversion and emulation of the third party devices collection schemes such that the

data collection module is transparent to the third party data concentrator. Furthermore, it allows

the third party device to pull the data collection model using its own native protocol. The data

collection module can also be implemented as a board solution, which is designed to be installed

inside the third party device that can multiple interface modules (Column 32. lines 56-65:

Column 33, lines1-4). Furthermore, the data collection module will be assigned an Internet

address in order for transmit and receive information from the host (gaming servers) in the form

of a TCP/IP signal (Column 46, lines 11-13). The host will also be assigned addresses which to

transmit and which to receive the data collection module signals. (Column 46, lines 9-11). It can

thus be inferred by one skilled in the art that if the host is assigned addresses in which to transmit

and receive, that specific ports are assigned to the host in order to facilitate the communication

between the native language and the TCP/IP protocol. Cunninghman et al. further disclose that

the system allows for an extensive network of communication between high grade

communication equipment without having to implement an entirely new system for the

information collection (Column 6, lines 15-19), thus noting that by emulating and converting

devices with different protocols can be used together via the data collection module. This

basically defines that a device, such as a multiplexer stored in a gaming machine, can use its

ports to transparently collect data (receive messages) from a third party device, such as a gaming

machine itself, in order for the modulator to collect the messages and emulate the native protocol

of the gaming machine. This device can also communicate with a server and receive messages

from a server using TCP/IP. It would be axiomatic to the functionality of this emulation device

that the ports contain a communications output port in order to transfer the emulated language to

the desired device while at the same time each separate port be configured to be compatible with

the native language of the third party service and processor logic be used to encapsulate, address,

and send the messages. Furthermore, it would have been obvious to one skilled in the art at the

time of invention to the adapt the communication system in the gaming apparatus as defined by

Sines to perform the operation of the data collection module as defined by Cunningham et al. for

reasons supplied by Goody et al. as to why multiplexing and de-multiplexing is desirable in a

multiple application environment. By using a multiplexer as the means for the data collection

model and incorporating a board of ports into the multiplexer, it is possible to create a system

where a variety of applications can use the same medium for server messaging, yet still properly

protect and restore the original protocol, being the protocols defined by the prior art, of the

message. As noted by Applicant, the EEPROM is used for many applications in the gaming

industry and is encoded with a special signature that is used to verify its authenticity. Many

gaming specific information is stored in this device, as it is well known in the art that it can

easily be erased and new information recorded. Therefore, it would have been obvious to one

skilled in the art at the time of invention to use the already present EEPROM to store

configuration data for the ports as it is a secure means, validated by signature, and it is not permanent so if the port data changes, as can the EEPROM.

In US Patent No. 6,149,522, Alcorn et al. disclose that in order to be acceptable for casino use, an electronic gaming system must provide both security and authentication (Column 1, lines 42-44). It would be essential to the intent of this requirement that encryption and authentication also be provided for communications between machines and servers. Therefore, it would be obvious to one skilled in the art at the time of invention to employ the methods taught by Alcorn et al. for casino security to the communications across the network in order to provide a system that is known and trusted to be secure and can not be infiltrated by those without access.

Therefore the apparatus and the methods of use for communications which is disclosed by or axiomatic to Sides (US Patent No. 5,048,831, O'Toole et al. (US Patent No. 6,345,294), Goody (US Patent No. 6,097,721), Cunningham et al. (US Patent No. 6,366,217), and Alcorn et al. (US Patent No. 6,149,522) viewed collectively contains all elements as claimed by applicant.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US Patent No. 5,740,075: Multiplexer that changes an optical signal to an electrical signals, regenerates the electrical signal and can convert the regenerated electrical signal back into an optical signal. Also maintains Video Information Provider information on server ports along with allowing the Digital Entertainment Terminal to

convert messages compatible with the DET to and from message formats compatible with the Video Information Provider's equipment.

US Patent No. 6,099,408: See FIGURE 2, method for securing electronic games with a player database, game results database, audit database, payment database, etc.

US Patent No. 4.553,222: See Communications Multiplexer

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Marks whose telephone number is (703)-305-7497. The examiner can normally be reached on Monday - Friday (7:30AM - 4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Martin-Wallace can be reached on (703)-308-1148. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9302 for regular communications and (703)-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1148.

C. Marks
August 26, 2002

MICHAEL O'NEILL
PRIMARY EXAMINER